

Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. Cancelled.
2. (Previously Presented) A method of bonding a cover plate over a plurality of encapsulated top-emitting OLED devices formed on a surface of a device substrate wherein each one of the plurality of OLED devices includes a pixelated display area and at least one electrical interconnect area, comprising:
 - a) providing a flow-preventing pattern by forming grooves on a surface of the cover plate or a surface of the OLED devices and at least at positions corresponding to positions of the electrical interconnect areas of the OLED devices to prevent flow of a flowable adhesive material into at least outermost portions of such interconnect areas;
 - b) dispensing a selected amount of a flowable curable adhesive material on the surface of the cover plate or a surface of the OLED devices in registration with the flow-preventing pattern;
 - c) engaging the cover plate in alignment with the device substrate so that the selected amount of the flowable adhesive material flows to spread to a nearest edge or to nearest edges of the flow-preventing pattern and over the pixelated display area of each one of the plurality of OLED devices and being prevented from flowing or spreading into the flow-preventing pattern so that outermost portions of the interconnect areas are free from any adhesive material;
 - d) curing the spread adhesive material to provide uniform bonding between the cover plate and at least the pixelated display area of each OLED device, thereby achieving a structural buffer layer; and
 - e) singulating the OLED devices and the bonded cover plate to provide individual top-emitting OLED devices having a bonded cover plate and permitting access to the at least one electrical interconnect area for attaching electrical leads thereto.
3. Cancelled.
4. (Original) The method of claim 2 wherein element c) includes engaging without externally applied forces.
5. Cancelled
6. Cancelled

7. (Original) The method of claim 2 wherein element b) includes dispensing a pattern of a flowable adhesive material having a viscosity in a range from 50 to 1,000 cp.
8. Cancelled
9. (Original) The method of claim 2 wherein element d) includes directing curing radiation at the spread adhesive material through the cover plate.
10. Cancelled
11. Cancelled
12. (Previously Presented) The method of claim 2 further including forming grooves having substantially flat bottom surfaces.
13. (Previously Presented) The method of claim 2 further including forming a plurality of unidirectional grooves, or a plurality of rectilinear sets of grooves.
14. (Original) The method of claim 2 further including dispensing the adhesive material at positions approximately centered with respect to the pixelated display areas of the OLED devices.
15. Cancelled
16. (Withdrawn) An encapsulated top-emitting OLED device having a transparent cover plate bonded thereover by a transparent structural buffer layer and made by the method of claim 1.
17. (Withdrawn) A method of bonding a cover plate over a plurality of encapsulated bottom-emitting-OLED devices formed on a surface of a device substrate wherein each one of the plurality of OLED devices includes a pixelated display area and at least one electrical interconnect area, comprising:
- a) providing a flow-preventing pattern on at least a surface of the cover plate and at least at positions corresponding to positions of the electrical interconnect areas of the OLED devices to prevent flow of a flowable adhesive material into at least outermost portions of such interconnect areas;
 - b) dispensing a selected amount of a flowable curable adhesive material on the surface of the cover plate in registration with the flow-preventing pattern;
 - c) engaging the cover plate in alignment with the device substrate so that the selected amount of the flowable adhesive material flows to a nearest edge or to nearest edges of the flow-preventing pattern and at least over the pixelated

display area of each one of the plurality of OLED devices and being prevented from flowing or spreading into the flow-preventing pattern so that outermost portions of the interconnect areas are free from any adhesive material; and

d) curing the spread adhesive material to provide uniform bonding between the cover plate and at least the pixelated display area of each OLED device on the device substrate, thereby achieving a structural buffer layer.

18. (Withdrawn) The method of claim 17 further including singulating the device substrate and the bonded cover plate to provide individual bottom-emitting OLED devices having a bonded cover plate and permitting access to the at least one electrical interconnect area for attaching electrical leads thereto.

19. (Withdrawn) An encapsulated bottom-emitting OLED device having a cover plate bonded thereover by a structural buffer layer made by the method of claim 18.

20. (Previously Presented) A method of bonding a cover plate over a plurality of OLED devices formed on a surface of a device substrate wherein each one of the plurality of OLED devices includes a display area and at least one electrical interconnect area, comprising:

a) providing a flow-preventing groove pattern on a surface of the cover plate to prevent flow of a flowable adhesive material into at least the outermost portions of the electrical interconnect areas;

b) dispensing a selected amount of a flowable curable adhesive material on the surface of the cover plate in registration with the flow-preventing groove pattern;

c) engaging the cover plate in alignment with the device substrate so that the selected amount of the flowable adhesive material spreads to the nearest edge(s) of the flow-preventing groove pattern and over the display area of each one of the plurality of OLED devices, such flowable adhesive being prevented from spreading into the flow-preventing groove pattern so that outermost portions of the interconnect areas are free from the adhesive material;

d) curing the spread adhesive material to provide uniform bonding between the cover plate and at least the display area of each OLED device, thereby achieving a structural buffer layer; and

e) singulating the OLED devices and the bonded cover plate to provide individual OLED devices having a bonded cover plate thereby permitting access to the at least one electrical interconnect area for attaching electrical leads thereto.

21. (Previously Presented) The method of claim 20 wherein the grooves of the flow-preventing groove pattern have sharp edges.

22. (Previously Presented) The method of claim 20 wherein the grooves of the flow-preventing groove pattern are at least 50 μm deep and at least 0.5 mm wide.

23. (Previously Presented) The method of claim 20 wherein the grooves of the flow-preventing groove pattern have surface tension characteristics that do not facilitate the wetting of the flowable adhesive material.

24. (Previously Presented) The method of claim 20 wherein the OLED devices are top-emitting and wherein the cover plate and cured adhesive are transparent.

25. (Previously Presented) An OLED device comprising:

- a) a substrate;
- b) a display area including at least one anode and at least one cathode formed over the substrate, and an organic electroluminescent medium structure provided between the anode and cathode;
- c) an electrical interconnect area;
- d) a cover plate provided over and bonded to the display area by a cured adhesive material, such adhesive material having been flowable prior to curing, and
- e) the cover plate includes a flow-preventing groove pattern on the surface facing the substrate such that the adhesive material is in contact with the display area and the cover plate up to the edge of the grooves of the groove pattern, the grooves of such groove pattern not being in contact with the adhesive material, and wherein the flow-preventing groove pattern is provided in registration with the electrical interconnect areas such that the outermost portions of the electrical interconnect areas are free from the adhesive material.

26. (Currently Amended) A method of bonding a cover plate over a plurality of OLED devices formed on a surface of a device substrate wherein each one of the plurality of OLED devices includes a display area and at least one electrical interconnect area, comprising:

a) providing a flow-preventing pattern by forming grooves on a surface of the cover plate or a surface of the OLED devices such pattern having a closed, rectilinear shape to surround at least the outermost portions of the interconnect areas;

b) dispensing a selected amount of flowable curable adhesive material on the surface of the cover plate or a surface of the OLED devices in a position outside of the closed, rectilinear flow-preventing pattern;

c) engaging the cover plate in alignment with the device substrate so that the selected amount of the flowable adhesive material flows spreads to the nearest edge(s) of the flow-preventing pattern and over the display area of each one of the plurality of OLED devices and being prevented from spreading into the flow-preventing pattern so that outermost portions of the interconnect areas are free from any adhesive material;

d) curing the spread adhesive material to provide uniform bonding between the cover plate and at least the display area of each OLED device, thereby achieving a structural buffer layer; and

e) singulating the OLED devices and the bonded cover plate to provide individual OLED devices having a bonded cover plate thereby permitting access to the at least one electrical interconnect area for attaching electrical leads thereto.

27. (Cancelled)

28. (Cancelled)

29. (Cancelled)

30. (Currently Amended) A method of bonding a cover plate over a plurality of OLED devices formed on a surface of a device substrate wherein each one of the plurality of OLED devices includes a display area and at least one electrical interconnect area, comprising:

a) providing a flow-preventing pattern by forming grooves on a surface of the cover plate or a surface of the OLED devices, a portion of the pattern being provided at a position corresponding to positions of the electrical interconnect areas of the OLED devices, such pattern defining at least one opening in a position spaced from the electrical interconnect areas;

b) dispensing a selected amount of flowable curable adhesive material on the surface of the cover plate or a surface of the OLED devices in registration with the flow-preventing pattern;

c) engaging the cover plate in alignment with the device substrate so that the selected amount of the flowable adhesive material spreads to nearest edge(s) of the flow-preventing pattern and over the display area of each one of the plurality of OLED devices and being prevented from spreading into the flow-preventing pattern so that outermost portions of the interconnect areas are free from the adhesive material;

d) curing the spread adhesive material to provide uniform bonding between the cover plate and at least the display area of each OLED device, thereby achieving a structural buffer layer; and

e) singulating the OLED devices and the bonded cover plate to provide individual OLED devices having a bonded cover plate thereby permitting access to the at least one electrical interconnect area for attaching electrical leads thereto.

31. (Cancelled)

32. (Cancelled)

33. (Cancelled)

34. (Cancelled)

~~36~~ 35. (Currently Amended) The method of claim ~~34~~ 30 further including forming a plurality of unidirectional grooves, a plurality of partially open rectilinear grooves or a plurality of rectilinear sets of grooves.